



by [Roelof J. Engelbrecht](#)

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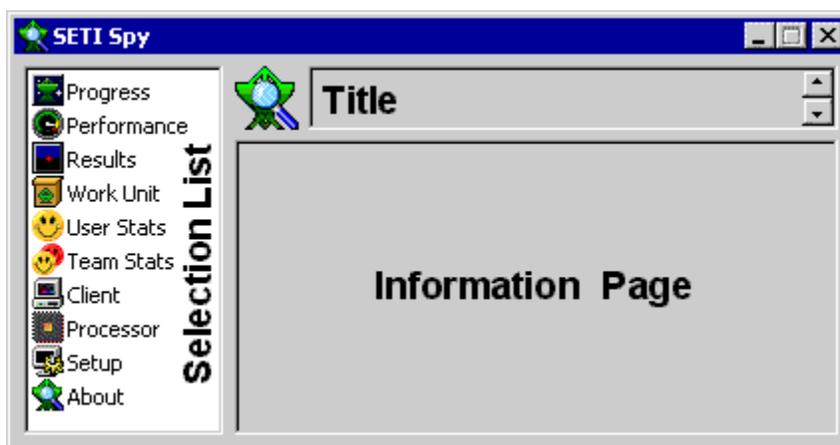
Instructions

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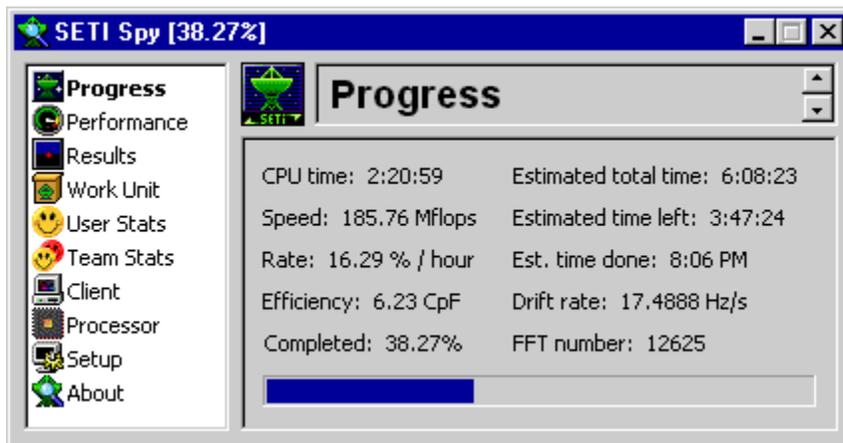
General

The SETI Spy main screen contains a **selection list** on the left and a **title** and **information** page on the right:



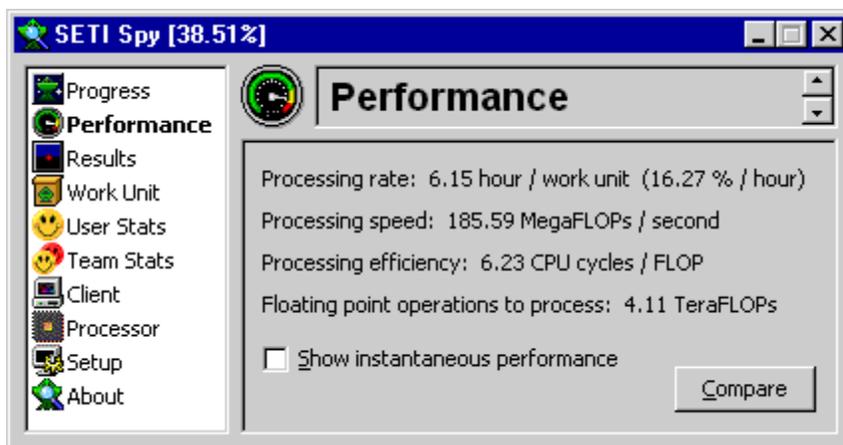
When you click on any item in the selection list, the title changes to that item and the information page is filled with some (hopefully) interesting information about your SETI@home client progress and performance. You can use the  and  buttons next to the title or the **PgUp** and **PgDn** keys to go to the next or previous item in the selection list. You can close SETI Spy by clicking on the  button or by pressing the **Esc** key. On most pages you can **right-click** to open a menu with actions to choose from, including copying the page content to the clipboard.

Progress page



If you are running the SETI@home client, the progress information of the current work unit (packet of radio telescope data) will be displayed here on the **Progress page**. The [Performance page](#) describes the **speed**, **rate**, and **efficiency** in detail. If the **estimated time done** is more than 24 hours in the future, it will be indicated with (+N), where N is the number of days until completion of the work unit. For example, a completion time of 10:00 AM two days in the future will be displayed as 10:00 AM (+2). The **drift rate** field displays the current drift rate (chirp rate) that is being analyzed. Drift rates can range between -50 Hz/s and 50 Hz/s in SETI@home Version 3.03. The **FFT number** field shows the current FFT number. SETI@home Version 3.03 performs 31560 FFTs per work unit. Note that the **percentage completed** is also displayed in the window caption.

Performance page



I am interested in the performance of SETI@home on different processors, and this is where I display the performance information. The **processing rate** shows how quickly the current work unit is being processed. In this example, the processing rate is one work unit every 6.15 hours, or 16.27% per hour.

The processing rate depends on the amount of work that the SETI@home client must do. This is expressed in FLOPs (Floating point Operations), shown in the **floating point operations to process** field. The FLOPs varies from work unit to work unit, ranging from about 3.4 to 4.5 TeraFLOPs in SETI@home Version 3.03.

Using the FLOP number, the processing rate can be translated into a **processing speed**, which I show in MegaFLOPs per second. The processing speed makes it

easy to compare the SETI@home processing power of different computers. The **processing efficiency** shows how many processor (CPU) cycles are used to calculate one Floating Point Operation (FLOP). The lower this number, the more efficient is your processor. Different types of processors have different efficiencies, and efficiency is influenced by the Floating Point Unit (FPU) design, cache size and cache speed, CPU multiplier, memory size and latency, and operating system. You can use the efficiency number to determine if your SETI@home client is running at peak efficiency. See the [Processing Efficiency](#) section for more information on efficiency.

If you select **Show instantaneous performance**, instantaneous performance information will be displayed rather than the average for the work unit thus far. The instantaneous performance measures will usually fluctuate significantly, but are useful for performance tweaking, as changes in processing speed will be immediately apparent. Also, keep in mind that the instantaneous performance measures will take a while to stabilize after starting SETI Spy.

Click on the Compare button to open the **Peak Processing Efficiency** window:

Processor	L2 Cache	CpF*
Sun UltraSPARC-III	8 MB	6.2
Intel Pentium 4 Northwood RDRAM	512 KB	6.3
Sun UltraSPARC-IIe	256 KB	6.3
AMD Athlon Thunderbird DDR	256 KB	6.4
PowerPC G4	1 MB	6.4
AMD Athlon XP Palomino/T'bred DDR (Dual CPU)	256 KB	6.6
Intel Pentium 4 Willamette	256 KB	6.7
Intel Pentium 4 Northwood SDRAM	512 KB	6.7
PowerPC G3	512 KB	6.9
Intel Celeron (Dual CPU)	128 KB	7.2
Intel Pentium IIIE Coppermine (Dual CPU)	256 KB	7.2
Intel Xeon Prestonia	512 KB	7.2
→ This processor (average)	256 KB	7.37
Intel Pentium	512 KB	8.5
AMD K5	512 KB	8.9
AMD K6-III/III+	256 KB	8.9
AMD K6-2+	128 KB	10.2
Intel Xeon Prestonia (2 clients/CPU)	512 KB	11.3
AMD K6/K6-2	512 KB	11.6
Cyrix M2 / IBM 6x86MX	512 KB	12.2
Weitek SPARC Power μ P	1 MB	13.7
Intel 486DX	256 KB	21.3

CPU/RAM speed ratio (for CpF estimate only):

*CPU Cycles / FLOP (lower is better)

This window compares the processing efficiency of your processor with the peak efficiency of other processors. The processors are sorted by increasing CPU Cycles / FLOP (on other words, decreasing performance), and your processor is marked with an arrow. Either the average or instantaneous performance is displayed, depending on the state if the **show instantaneous performance** option on the **Performance** page. The typical L2 cache size is also shown for comparison. You can select the CPU/RAM speed ratio (the same as the CPU multiplier if your memory and front side bus run as the same speed) of your processor at the bottom of the window for a more accurate comparison with other processors. **Note:** Changing the CPU/RAM speed ratio multiplier will **not** change any timings or speeds

in your system; it is only used to estimate the CPU Cycles / FLOP value of the different processors.

If you click on the **Calculator button** the **Processing Time Calculator** window opens:

Please fill in the Input fields and press the Calculate button to estimate the processing time for the particular processor, memory, and work unit combination.

Input

Processor type: AMD Athlon Thunderbird (256 KB L2)

Processor speed (MHz): 1000

Effective memory speed* (MHz): 133

Work unit angle range (degrees): 0.417

Calculate

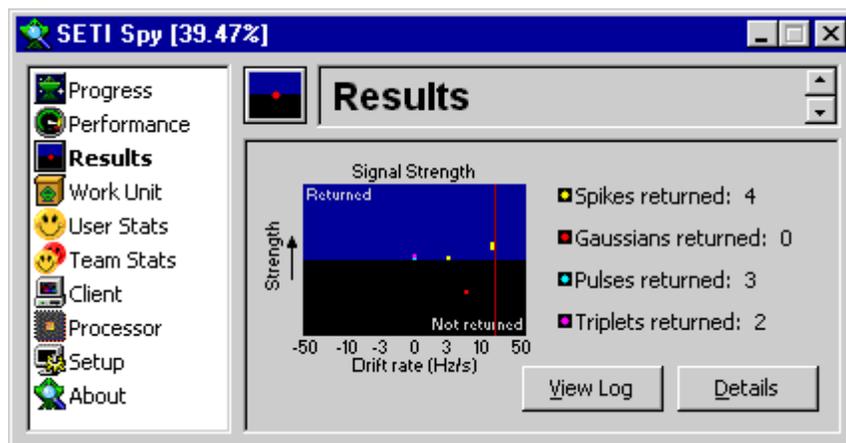
*Enter the effective memory speed, taking into account the double or quadruple data rates of DDR and RDRAM memory. For example, for DDR Memory running at 133 MHz enter 266 MHz.

Result

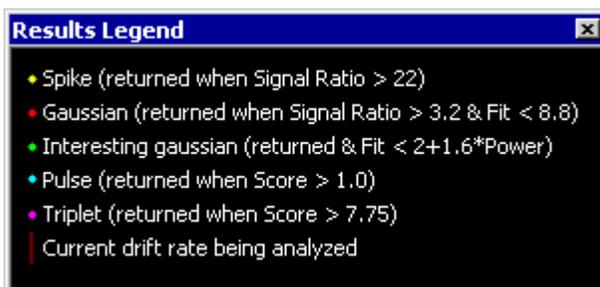
Estimated processing time: 6.45 hours (6 hr 27 min)

You can use this window in the same way as the [Online SETI Timer](#) to calculate the estimated optimal processing times for the SETI@home 3.03 text client on more than 50 processor types. Select the **processor type**, and enter the **processor speed**, **effective memory speed**, and **work unit angle range**. Then click the **Calculate button** to perform the calculation. Be sure to enter the **effective** memory speed, taking into account the double or quadruple data rates of DDR and RDRAM memory. For example, for DDR Memory running at 133 MHz you would enter 266 MHz. The default angle range of 0.417 corresponds to the [Team Lamb Chop](#) benchmark work unit. It is also a reasonably good indicator of the average processing time per work unit.

Results page

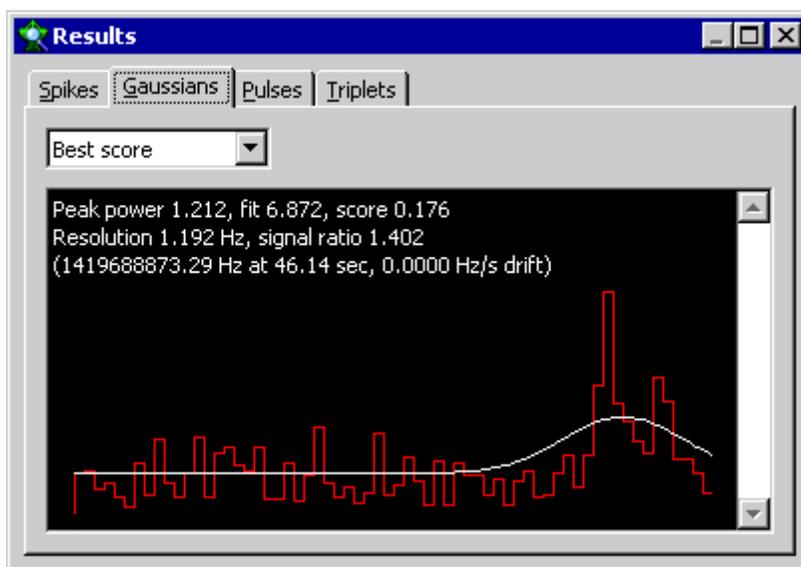


The **Results** page allows you to view the signal processing results. All signals found are indicated by colored dots on the **Signal Strength graph**. The horizontal axis shows the drift rate at which the signal was found, and the vertical axis shows the relative signal strength of the signal. The maroon vertical line shows the drift rate currently analyzed, as shown in this [animation](#). The graph is divided into two regions, an **Returned** region shown in blue, and an **Not returned** region shown in black. All signals located in the **Returned** region will be returned to the SETI@home servers in Berkeley, California for further analysis. The number of returned signals of each type is shown on the right, together with a colored dot describing the signal type. In this example, 3 spikes will be returned. You only see two yellow dots because two spikes of similar strength were found at the similar drift rates, and lie on top of each other on the graph. The gaussian in the example will not be returned. If you right-click and choose **Legend** from the menu, the **Results Legend** window is displayed, showing the thresholds for returning various signals:



SETI Spy calculates the **spike signal ratio** as $2^{14} * \text{Power} / \text{FFT Length}$, and the **gaussian signal ratio** as $\text{power} / \text{base}$. The value of "base" is contained in the state.sah and outfile.sah files. All other values are calculated by SETI@home.

Click on the **Details button** to open the **Results** window:



This window displays detailed information about the signals found. There are four types of signals: **spikes**, **gaussians**, **pulses**, and **triplets**. Spikes and gaussians are found by all versions of SETI@home, but pulses and triplets are only found by SETI@home Version 3. You can select the tabs across the top of the window to view each type of signal. Gaussians and pulses are shown in graphs, while spikes

and triplets are shown in tables. If more than one gaussian or pulse was found, you can view individual signals by selecting them in the box at the top of the graph or by using the scroll bar to the right of the graph.

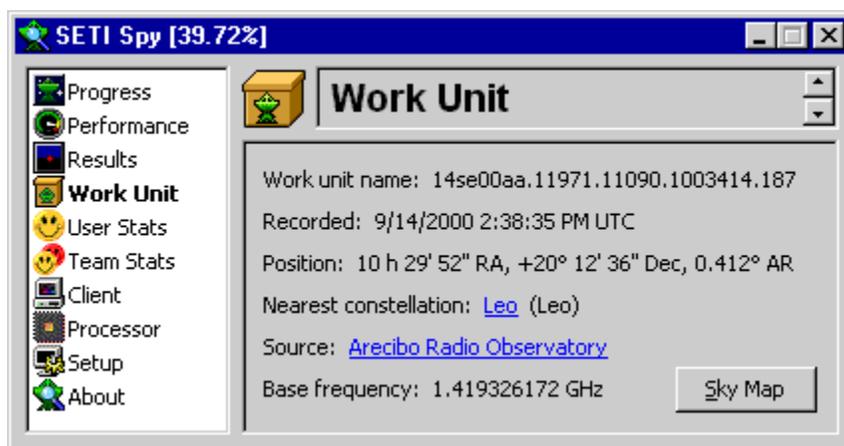
Gaussian graphs show the familiar red "skyline" graph that represents the power at a given frequency as seen over time. The white line shows the gaussian that best fits the "skyline". You can think of the **peak power** as the "height" of the bump, and the **fit** as the "distance" between the red and white lines. (For the statistically minded, the gaussian fit value is actually the Chi-squared statistic.) The frequency, time, and drift rates at which the signal(s) were detected are also shown.

If you **right-click** on the graph you can **save** it to a file or **copy** it to the clipboard, from where you can paste it into any program that accepts graphics files in the bitmap format. You can also select two preset graph sizes: either the default SETI@home screensaver size (long and narrow) or the default SETI Spy size. The latter is a handy format to submit **gaussian graphs** to Alfred Das' [CITY@home gallery](#), which you can also access from the right-click menu.

You can also **right-click** on the spike or triplet table to copy the table to the clipboard, from where it can be copied into a text editor or a spreadsheet like Microsoft Excel for further analysis..

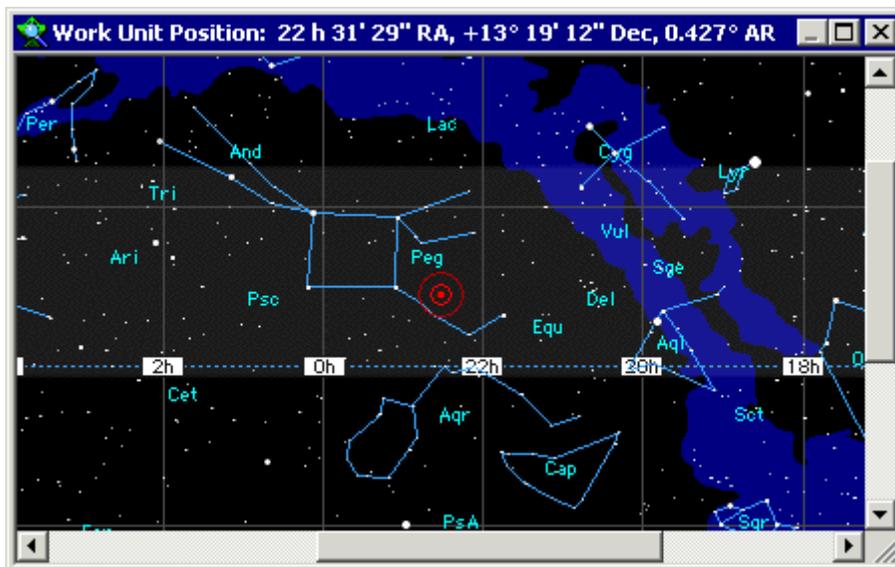
You can click on the **View Log** button to view the **log file** that contains the processing time and strongest spike and gaussian information of all work units completed while SETI Spy was running. See the [Other Functionality](#) section for more information on the log file.

Work Unit page



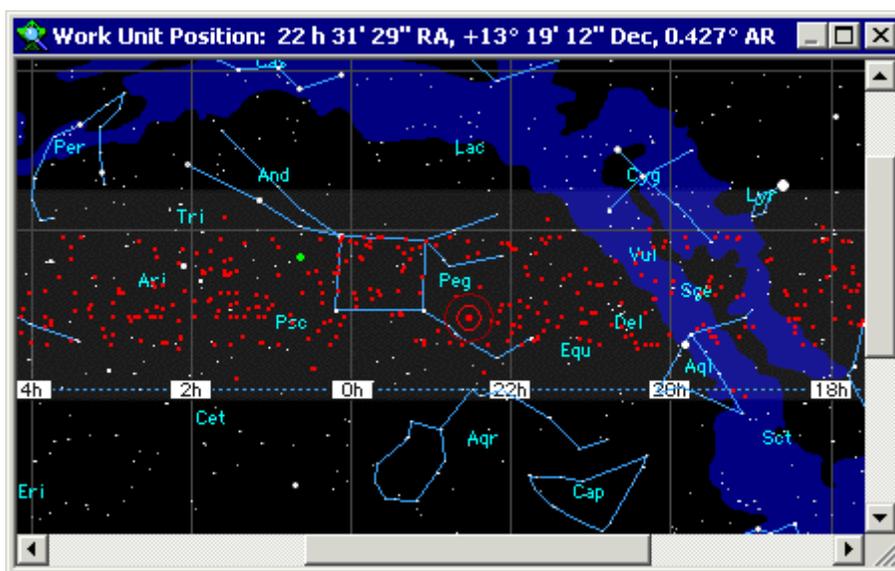
The **Work Unit** page shows information on the work unit currently being processed, including the **name**, **date recorded** (in [Coordinated Universal Time](#) or UTC), **sky position**, **angle range**, **telescope**, and **base frequency**. You can click on the source hyperlink to visit the [Arcibo web site](#).

The **Sky Map** button displays a map of the sky where the current work unit was recorded:



You can use the **scroll bars** to scroll around, or **resize** the window to see more of the sky.

You can toggle a "history" display of all the work units in the log file from the right-click menu or by pressing Ctrl-H:



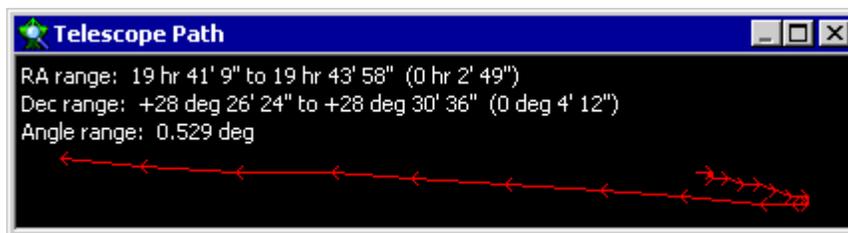
Work units containing "interesting" gaussians (those that are returned and have a $\text{Fit} < 1.6 * \text{Power}$) are displayed as larger green dots, while other work units are displayed as smaller red dots at their respective sky positions. All white dots are star positions.

You can also select to display a **legend** for the sky map from the right-click menu, or by pressing Ctrl-L:



The legend gives the **constellation name** for each of the 88 abbreviations used on the sky map. It also provides links to constellation information on the [Basic Celestial Phenomena](http://www.earthvisions.net/bcp/) web site, courtesy of [Kerry Magruder](http://www.earthvisions.net/bcp/). You can press the Escape key to close the legend, or use the small 

If you click on the animated "target" symbol, select the **telescope path** from the right-click menu, or press Ctrl-T, the **Telescope Path** window is opened:



This window shows the path the telescope was following while recording the work unit. If the telescope was following a fixed sky position, there will be no path, and the text "tracking" will be displayed.

You can right-click anywhere on the sky map or telescope path to **save** it to a file or **copy** it to the clipboard.

User Statistics page



The **User Statistics** page displays the information and statistics of the user the current work unit will be attributed to. You can click on the **user name** to view the user account information on the SETI@home web site. For security, the user e-mail address is not displayed on the Environment page (but keep in mind it is shown on the [SETI@home user account information page](#)). The **date** the user signed up with the SETI@home project is shown, with the **number of results** returned, the **total CPU time**, and the **average CPU time**.

The User Statistics page also shows the **result interval**, which is the average elapsed time between result returns. This statistic was shown for a short while on the SETI@home user account information page, but disappeared for unknown reasons. If you were disappointed to see this statistic disappear, SETI Spy comes to the rescue! I concede that on its own, the result interval is not all that interesting, but divide the average CPU time by the result interval, and you get what I call the **CPU dedication**. This is equivalent to the average number of processors (CPU's) in the user account working full-time on SETI@home since registration. For example, when the result interval was still provided on the SETI@home site, I calculated that [seti@sun.com](#), the (then) #1 SETI@home user, had a CPU dedication of more than 400. That's a lot of CPU's! If you only run S@H on one machine, your CPU dedication will represent the proportion of CPU time committed to SETI@home. If you have a CPU dedication less than 1.0, the value will be displayed as a percentage.

If you click the **Update** button SETI Spy updates the user statistics from the SETI@home web site. The country you registered under will also be retrieved. You can then click on the **country name** to view the country page. Your **rank** information will also be updated from the SETI@home web site, as well as the number of **users** you are sharing your rank with. If the update from the SETI@home web site fails for any reason, the statistics will be reset to the last good values.

You can display the date and time of the last user statistics update by holding the mouse pointer over the Update button. Holding the mouse pointer over the User field will show you your SETI@home ID, in case you are interested. Hovering over the Registered field will tell you for how long you have been a SETI@home user. Hovering over the Results returned field will display the time the last result was returned to the SETI@home site, and hovering over the Rank field will show how many users share the rank with you.

It may happen that the **Update Button** appears to be "grayed out" and cannot be

pressed. If this is the case, please enter the Account Email Address on the **User Stats** tab of the [Statistics Server Setup](#) window.

Note: If you access the internet through an HTTP proxy you need to tell SETI Spy on the [Setup page](#) to use the proxy.

Team Statistics page

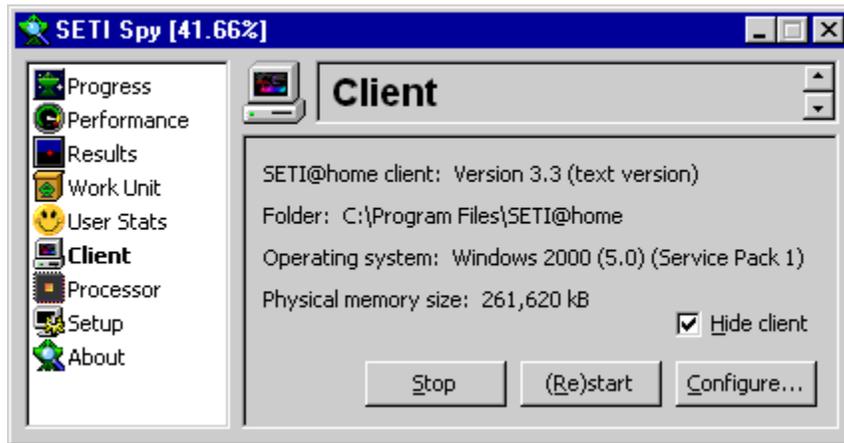


The **Team Statistics** page displays the information and statistics of the team or group the user belong to. You can click on the **team name** to view the team page on the SETI@home web site. The **number of results** returned, the **total CPU time**, and the **average CPU time** of the team is shown, together with the **team rank** and **user rank** within the team. Clicking on the team type hyperlink (Club teams in the example), takes you to the page on the SETI@home web site listing the Top 200 teams of the particular type.

If you have been tracking team statistics from more than 24 hours, the **results per day**, equivalent **CPUs**, and team processing **speed** will be displayed. The equivalent CPUs represent the number of CPUs at 100% dedication running SETI@home in the team, and the average estimated CPU speed of each CPU. If you hover the mouse pointer over the CPUs field the total processing power of the team will be displayed.

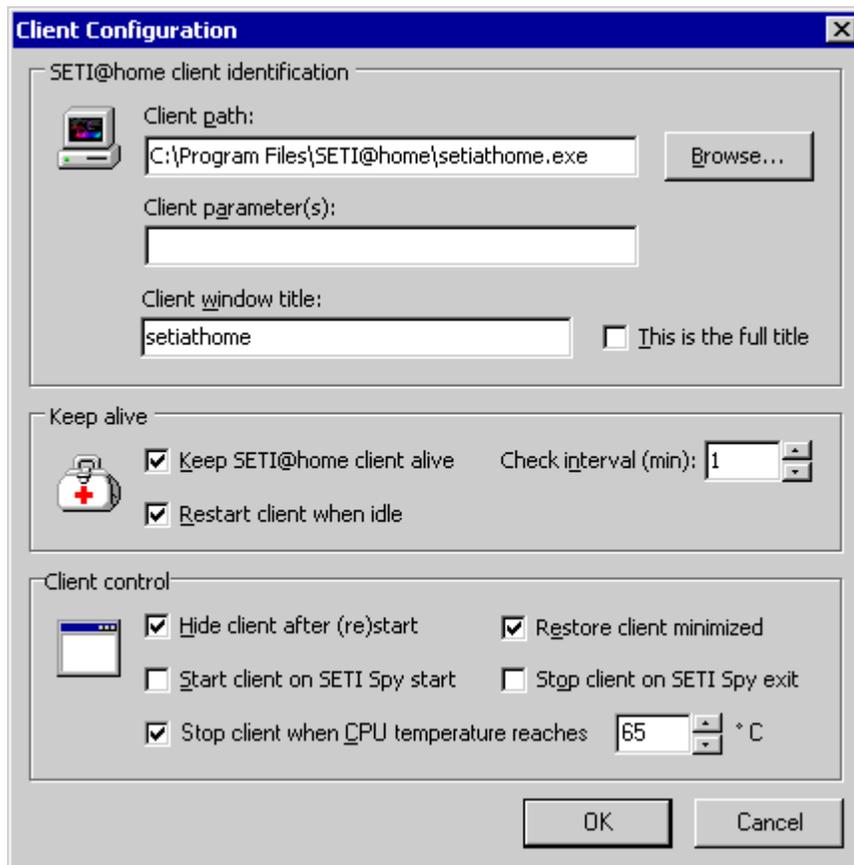
If you click the **Update** button SETI Spy updates the team statistics from the SETI@home web site. If the user is unranked you need to increase the **Team stats download size to find user name** on the the [Statistics Server Setup window](#). If the team is unranked, you can select a more appropriate team type from the [Statistics Server Setup window](#).

Client page



The first item displayed on the **Client** page is the version of the **SETI@home** client you are using. The **SETI@home** folder that SETI Spy is monitoring is also shown, as well as the **operating system** and the amount of **physical memory** (RAM).

If you are running SETI Spy locally, the **Client** page will display a **Configure** button. Clicking this button displays the SETI@home **Client Configuration** dialog box:



This box allows you to identify the SETI@home client that you are using. This allows you to:

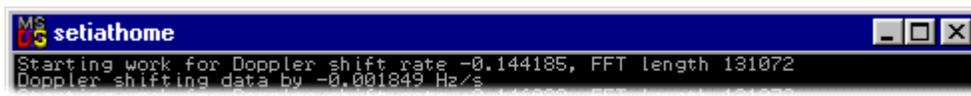
1. Hide the SETI@home client while it is running, and
2. Tell SETI Spy to "keep the SETI@home client alive" by periodically checking to see if the client is running, and if not, to restart it.
3. Start the SETI@home client when starting SETI Spy and /or stop the client

when exiting SETI Spy.

These features are especially handy when you use the text client. The first feature allows you to run the text client in the background without displaying a button on the taskbar, and the second ensures that the text client restarts whenever it terminates unexpectedly, for example when it cannot connect to the Berkeley server after completing a work unit. The third feature allows you to only run the SETI@home client when SETI Spy is running.

The **Client path** field must contain the file name and path of the SETI@home client, in this example "C:\Program Files\SETI@home\setiathome.exe" (I renamed my text client to "setiathome.exe"). You can use the **Client parameter(s)** field to specify one or more command line parameters to the executable in the Client path field. For example, you can use the **-cpu N** parameter to run the NT text client on CPU N (where N = 0, 1, 2, etc.) on a multiprocessor machine. If you are using the graphical client you can use the **-min** parameter to start it minimized.

SETI Spy determines if the client is running by searching for a window (which may be hidden) with a title bar that contains the text specified in the **Client window title** field. If you select **This is the full title**, there must be an exact match between the title bar text and the text specified in the Client window title field. If such a window cannot be found, the client is restarted. In this example, the Client window title is set to "setiathome", since the text client window has the title "setiathome":



The search is not case-sensitive, so "SETIatHome", "SETIATHOME", and "setiathome" are all equivalent. **Note:** If you don't select **This is the full title**, you must choose the Client window title text carefully so that it is unique to the SETI@home client window. For example, "SETI" will not work if you don't select **This is the full title**, since the SETI Spy window caption contains the text "SETI". **If the Keep alive or Client hide function does not seem to work correctly, you may need to rename your client to create a unique name or select This is the full title. Also, keep in mind that Windows 95/98/Me do not display periods in the client window title. Therefore, you have to look closely and enter the client window title exactly as it appears on the SETI@home window. For example, if the SETI@home client is "setiathome-3.03.i386-winnt-cmdline.exe", the client window title will be "setiathome-303i386-winnt-cmdline". Notice that there are no periods in the title.**

SETI Spy keeps the client alive when **Keep SETI@home client alive** is selected. The **Check interval** field specifies how often (in minutes) SETI Spy must check if the client is running. You can also tell SETI Spy to restart the SETI@home client if it is inactive by selecting **Restart client when idle**. The [Setup page](#) tells you how to set up SETI Spy to detect if the SETI@home client is inactive (idle). **Note:** The keep alive function will most probably **not** work if you are running SETI@home as a service or using the Windows Task Manager to start it.

If you select **Hide client after (re)start**, SETI Spy will hide the SETI@home client when it is started or restarted. **Note:** If you are using the graphical SETI@home client use the **-min** parameter to start it minimized rather than selecting **Hide client**

after (re)start. If you select **Restore client minimized**, the SETI@home client will be minimized when it is restored (unhidden). If **Restore client minimized** option is not selected, the SETI@home client will be minimized in the state it was hidden. The **Start client on SETI Spy start** option is handy if you are not using the **Keep alive** function, but want to make sure that SETI@home is running when you start SETI Spy. You can select **Stop client on SETI Spy exit** to close the SETI@home client when you exit SETI Spy. Just make sure you have a good reason for doing so!

If you are running [Motherboard Monitor](#) you can **Stop the client** when the CPU temperature reaches a user defined value. This feature may be useful as a safeguard against very high CPU temperatures that may lead to calculation errors or system crashes. See the specification of your processor to determine what their maximum safe temperature is. **Also, please note that shutting down the client using this feature may be insufficient or too late to avoid damage to your CPU in the event of a heatsink fan failure or other serious heat-related failure.**

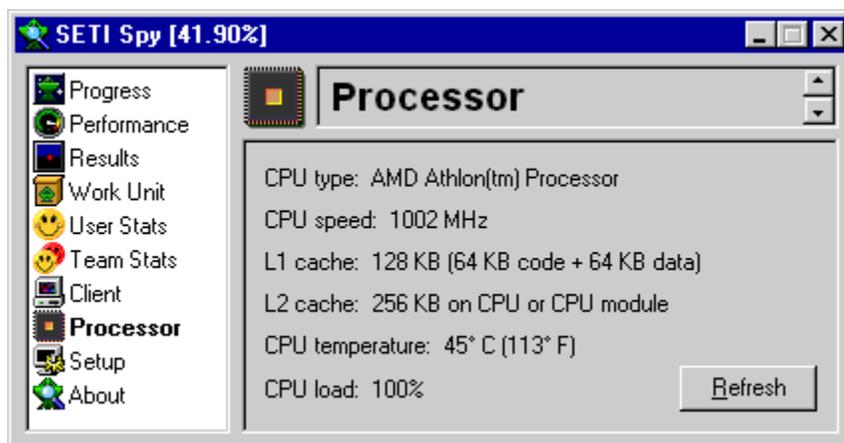
Closing the **Client Configuration** dialog box returns you to the **Client** page.

Note: If you use SETI Spy with [SETI Driver](#), please follow the instructions in [Frequently Asked Questions 2.13](#) to make them work together nicely.

If you identified the SETI@home client on the **Client Configuration** dialog box and are running SETI Spy locally, you can hide the SETI@home client by selecting **Hide Client**. Clearing the **Hide Client** option shows the client again. Keep in mind that the client will stay hidden even if you close SETI Spy. Therefore, if you have hidden the text client and want to interact with it, you have to start SETI Spy (if it is not already running) and clear the **Hide Client** option to show the client. **Note:** Hiding the client really only works with the text client, since the graphical client is already hidden when minimized, and the small 🌱 icon in the system tray cannot be hidden.

If you have identified the SETI@home client on the Client Configuration dialog box and are running SETI Spy locally, you can use the **(Re)start** button to start (or restart) the client and the **Stop** button to stop the client.

Processor page



This page shows the **type of processor** (CPU) you are using, as well as the **cache sizes** and **CPU speed**. On some CPU's you can hover the mouse pointer over the CPU type to get a more descriptive name.

The CPU speed is used to calculate the processing efficiency on the Performance page. Don't worry if the displayed CPU speed is not exactly equal to the rated speed of your processor; there is always a little variation in the speed measurement. The [L1](#) and [L2](#) cache sizes are important because SETI@home usually runs faster with larger caches. SETI Spy only reports the L2 cache size if it is located on the CPU or CPU module. This is true for processors such as the Intel Pentium Pro/II/III and Celeron, and the AMD K6-III and Athlon. Therefore, if you have an Intel Pentium or AMD K6 or K6-2, your L2 cache size will not be reported, even though it exists and is fully functional. Please use a utility such as [SiSoftware's Sandra](#) to determine the existence and size of your L2 cache if SETI Spy reports it as "unknown".

If you are running [Motherboard Monitor](#) the Processor page will show the **CPU temperature** and **CPU load**. To show the CPU load (which should be 100% if you run SETI Spy all the time) you have to check Motherboard Monitor's **Display CPU usage in dashboard screen** option on its CPU page. If you are running Motherboard Monitor and have trouble displaying the right CPU temperature, enter the following line under the [setup] section in your setispy.ini file:

```
MBMCPUTempSensorName=Your CPU sensor name here
```

The sensor name should correspond to name shown on the Motherboard Monitor Dashboard.

If you are running SETI Spy locally, you can use the **Refresh** button to recalculate your CPU speed. You may want to do so to verify the reported CPU speed.

Setup page

The Setup page contains a number of sub-pages that can be accessed by clicking the buttons on the top of the page.

Setup display

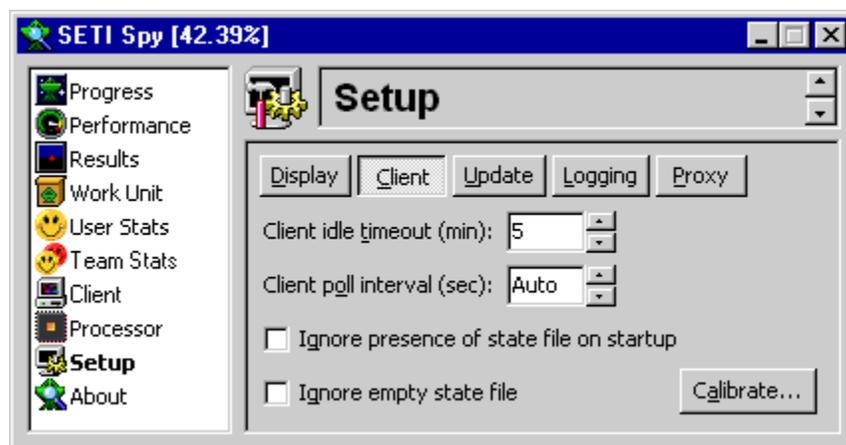


If you want to keep SETI Spy on top of all the open windows on your desktop, you can select **Always on Top**. When **Minimize to tray** is selected, SETI Spy will appear in the system tray when minimized. You can then double-click on the small  icon in the system tray (close to the time display in the bottom-right corner of your screen) to restore SETI Spy. Alternatively, you can right-click on the tray icon and choose **Restore** from the pop-up menu. Selecting **Run in tray** has the same effect

as **Minimize in tray**, except that SETI Spy will start up minimized in the system tray, and the tray icon will be displayed while SETI Spy is not minimized. This feature may be handy if you want to load the program at startup without displaying anything on your desktop. If both **Minimize to tray** and **Run in tray** are selected, the **Run in tray** functionality takes precedence. If you select **Close to tray**, the window close button  will minimize SETI Spy to the system tray, rather than close it. The **Close to tray** option is only available if you have selected **Run in tray**. The only way to close SETI Spy when **Close to tray** is selected is to right-click on the tray icon and choose **Exit** from the pop-up menu. If **Remember window positions** is checked, SETI Spy will open its windows in the last position you closed them.

You can use the Client description field to give a description for the SETI@home client. This feature can be used to distinguish between multiple clients running on multi-processor machines. The client description is displayed in the SETI Spy window caption and in the tooltip if the SETI Spy tray icon.

Setup client



SETI Spy monitors the SETI@home client for inactivity, and indicates when the client has been inactive for a user-defined duration. This value, specified in minutes, can be set in the **Client idle timeout** field. Whenever the SETI@home client has been inactive for longer than that duration, the SETI Spy icon turns yellow  as a warning. Avoid using small timeouts (1-2 minutes) on very slow machines, as the SETI@home client may appear inactive while it is actually running.

You can also set the interval at which the SETI@home client is polled for results in the **Client poll interval** field. This allows you to increase the interval at which the state.sah file is polled from the default of 1 second to a higher value. SETI@home Version 2.04 and later only writes to the state.sah file every 60 seconds, so it is not necessary to poll the state.sah file every second; a poll interval of 30 seconds should be adequate. SETI Spy prevents you from setting the poll interval time (in seconds) to more than 60 times the idle timeout (in minutes). This prevents SETI Spy from going into an endless "restart" loop. If you select the "Auto" client poll interval, SETI Spy will use file notifications to determine when the client updates the state.sah file, and then poll it half a second later. This is the most efficient way of polling, so I suggest you set the client poll interval to "Auto", except if it does not work or give problems.

The **Ignore presence of state file on startup** option allows you to ignore the error

box that it displayed if SETI Spy starts in a folder not containing the state.sah file.

Sometimes SETI Spy will log a work unit in the log file before it is complete. You can decrease the probability of this happening by checking the **Ignore empty state file** option. However, doing this will affect SETI Spy's capability to log "fast" work units reliably.

Clicking the **Calibrate** button opens the **Client Calibration Setup** window:

Client Calibration Setup

Enter the actual percentage complete for each reported percentage complete. Enter values for different angle range (AR) groups: Low: AR < 0.2255, Medium: 0.2255 <= AR <= 1.1274, and High: AR > 1.1274. Alternatively, use one of the presets below.

Preset: AMD Athlon Thunderbird

Low AR		Medium AR		High AR	
Reported %	Actual %	Reported %	Actual %	Reported %	Actual %
5.28	1.05	4.41	2.05	0.88	0.53
25.79	23.24	13.93	12.45	9.92	10.08
47.57	47.03	42.31	45.33	45.56	47.56
48.19	47.60	47.07	51.39	49.79	50.14
86.97	89.82	79.58	89.38	88.99	91.29
98.52	98.75	91.63	95.39	95.14	97.19
100.00	100.00	100.00	100.00	100.00	100.00

Reset Default OK Cancel

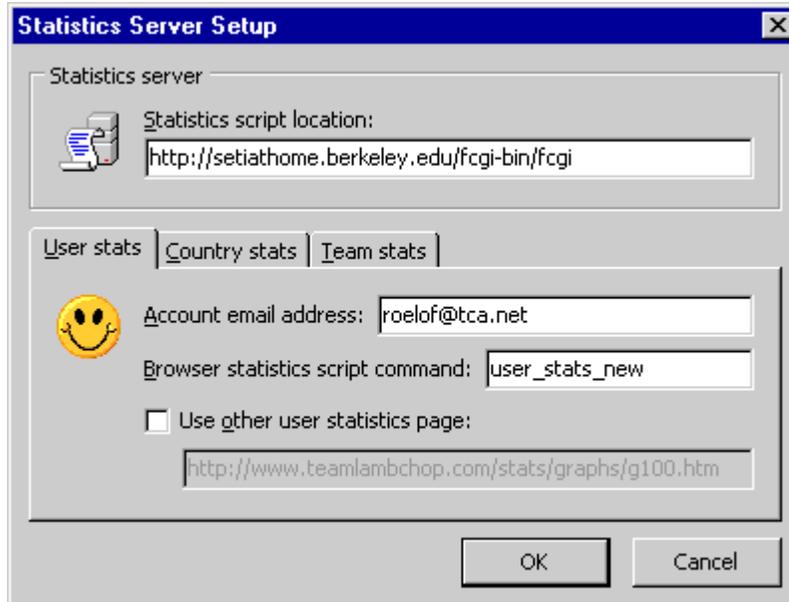
This window allows you to calibrate the SETI@home progress percentage to make it more accurate. This will improve the MegaFLOPs and CpF estimates as well as the estimated total time, time left, and time done. Enter pairs of increasing completion percentages, actual versus reported, for low medium and high angle range work units values. For typical values from some processors, please see [FAQ 3.3](#). You can also select a **Preset** calibration for a number of processors. The default values (obtained by clicking the **Default button**) are fine if you don't want to change it. Clicking the **Reset button** restores the calibration values in effect prior to making any changes.

Setup update



If **Notify me when a SETI Spy upgrade is available** is selected, SETI Spy will check the [SETI Spy website](#) every 24 hours for an upgrade. If a newer version is found, a dialog box will be displayed, where you can choose to (i) go to the web site to download it, (ii) be reminded later, or (iii) not be notified of an upgrade again. You can also automatically update the [user](#) and [group](#) statistics from the SETI@home website by selecting **Auto-update stats every XX hours**. The updates will take place at the selected interval. You can also update your statistics every time a result is returned by selecting **Auto-update stats when returning results**. If you have dial-up access to the internet, SETI Spy will attempt to dial into your service provider at the predefined intervals if **Auto-connect for stats updates** is selected.

Clicking the **Server** button opens the **Statistics Server Setup** window:



This window was added in response to Berkeley changing the location of the statistics CGI scripts, which resulting in disabling the statistics update function of SETI Spy and many other SETI@home add-ons. You can now specify the **Statistics script location** in case it changes again. Until this happens, however, there is no need to make any changes.

You can also specify detailed information about how the user, country, and team statistics are retrieved and displayed. On the **User stats** page you should specify

your SETI@home **account email address** so that SETISpy can retrieve your user and team statistics from the SETI@home servers. On the **Team stats** page you can select the team type (e.g. all teams, small company teams, medium company teams, etc.) that your team should be compared with for ranking purposes. There is also a **team stats download size to find user name** feature on the Team Stats page so that users in team positions 200+ can get their positions if they are willing to sacrifice the bandwidth. A download size of 30KB is good for about 100 positions. So, if you are at position 1000, you need to set the download size to at least 300KB to get your actual position. If you want to display an alternative web page if you click on the user name, country, or team name hyperlinks on the user and team statistics pages, you can specify them here on the Statistics Server Setup page.

Setup logging



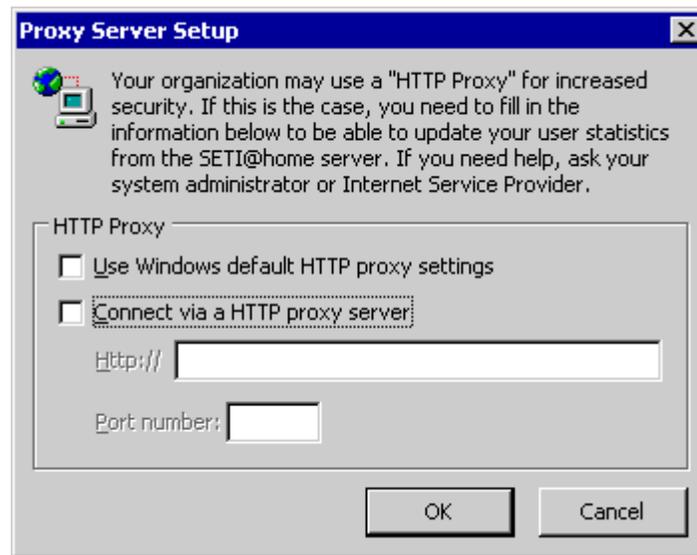
You can use the **Setup Logging** to automatically save gaussian graphs. You can autosave the best score gaussian by selecting the appropriate condition in the **Autosave best score gaussian graph** box. All returned gaussians graphs meeting the condition in the **Autosave returned gaussian graphs** box will be saved as well. You can select the graph **Format**, **Size** and **Folder** where you want to save the graphs in the appropriate boxes. If you want to submit gaussian graphs to Alfred Das' [CITY@home gallery](#), use the GIF format and the Default size.

Setup proxy



If you access the internet through an HTTP proxy and want to update your user stats or check for SETI Spy upgrades, you need to click the **Proxy** button to configure

SETI Spy to use the proxy:



You can either let SETI Spy use the default Windows proxy information or specify the same proxy information as you use for your SETI@home client.

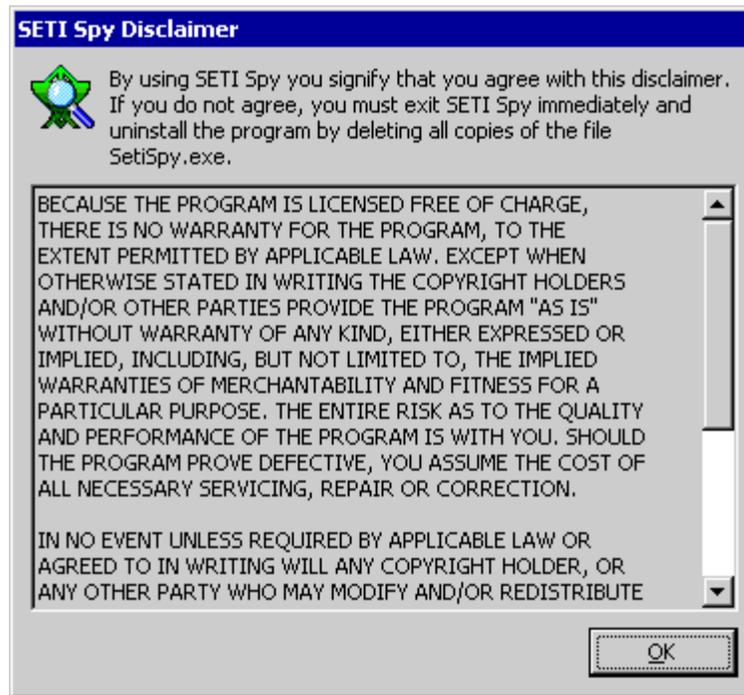
About page

If you want to know more about SETI Spy, click on the **About** item:



The About page shows the program version, description, and copyright information. You can visit the SETI@home or SETI Spy web site or send me email by clicking on the underlined links. As you can see, SETI Spy was built with [Borland Delphi](#), the most powerful Rapid Application Development (RAD) tool for Windows. Click on the **Built with Borland Delphi** logo for a quick link to the [Delphi website](#).

When you ran SETI Spy for the first time, you accepted a disclaimer. You can review the disclaimer by clicking on the underlined disclaimer link, which displays this disclaimer box:

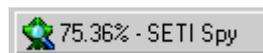


In short, the disclaimer says that I will not be held liable for any consequences arising from the use of SETI Spy. **Note:** you cannot withdraw your acceptance of the disclaimer while viewing it from the About page. If you disagree with the disclaimer after using the program, you must exit SETI Spy and uninstall the program as described in [Frequently Asked Question 1.3](#).

Other functionality

Taskbar

The taskbar button, if visible, displays the progress of the current work unit next to the program name:

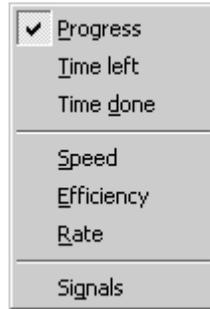


When the **Minimize to Tray** or **Run in Tray** options are selected, SETI Spy will run in the system tray (the small area containing the time).



If no signals have been found, the system tray icon will look like the example above, but if any signals have been found, the system tray icon will change to . If an "interesting" gaussian has been found the system tray icon will change to . An "interesting" gaussian is a gaussian that will be returned to SETI@home and has a $\text{Fit} < 2 + 1.6 * \text{Power}$, according to [this SETI@home graph](#).

If you hold your mouse over the system tray icon, a tooltip (hint) with the same information as the window caption will appear. If you right-click on the system tray icon you can select the text to display on the tooltip from the "Tooltip text" menu:



You can choose between the progress, time left, time done, speed, efficiency, processing rate and returned signals.

You can also hide or unhide the SETI@home client from the SETI Spy system tray menu.

When the SETI@home client has been inactive for more than the client timeout, the task bar and system tray icons will turn yellow as a warning. At the same time, the progress percentage will be replaced with "[idle]", for example:



The values on the Progress and Performance pages will also change to "unknown". When processing resumes, the icons will turn back green, and progress and performance values will be displayed

Remote monitoring

You can use SETI Spy to remotely monitor SETI@home clients across a network. If you run SETI Spy on a remote machine, the window title bar will show the name of the remote machine, as well as the user-defined description, for example:



In this example, SETI Spy is monitoring a remote machine named "Loelie" across a network. The description "- Office PC" was entered on the **Setup Page**. **Note:** Please run SETI Spy at least once locally on all machines to ensure that it identifies the processor and operating system information correctly.

Logging

SETI Spy saves a log of the process times of all the completed work units it logged. The log file is called "setispy.log" and is saved in the same folder as SETI@home client. The log file contains:

- the date and time each logged work unit was completed,
- the work unit name,
- sky position (Right Ascension, Declination, and Angle Range),
- the number of TeraFLOPs completed,
- the process time in hours,
- the percentage done at completion,
- the number of spikes returned, and the signal ratio of the best spike,
- the number of gaussians returned, and the signal ratio of the best gaussian (followed by an * if the gaussian is "interesting"),
- the number of pulses returned, and the score of the best pulse, and
- the number of triplets returned, and the score of the best triplet.

The [format](#) of the log file is suitable for importing into a spreadsheet like Excel to further analysis.

Sounds

If the sound file "setispy.wav" exists in the folder SETI Spy is running in, the sound will be played at the completion of a work unit. You can copy and rename any .wav file to "setispy.wav". Some good candidates are located in your Windows\Media folder, or you can search the web for .wav files. You can also use [this](#) 60 kB .wav file of the "Close Encounters" sound, courtesy of [Betsy](#).

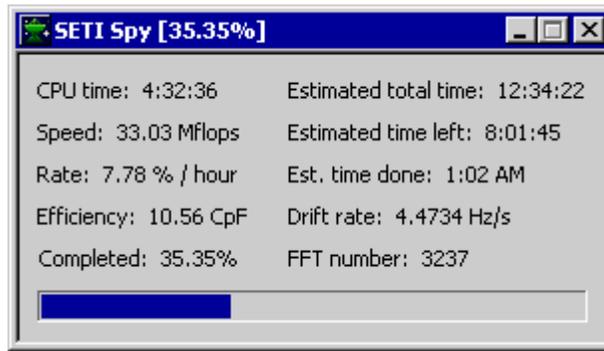
If the sound file "setispyidle.wav" exists in the folder SETI Spy is running in, the sound will be played when the SETI@home client goes idle. If the sound file "setispyinteresting.wav" exists in the folder SETI Spy is running in, the sound will be played whenever the SETI@home finds an "interesting" gaussian. The alien signal from Contact is perhaps a good candidate for the setispyinteresting.wav sound. Just don't turn your volume up too high, you may get a heart attack whenever an interesting Gaussian is found!

If the sound files exist but you don't want them to play, you can use the **-nosound** command line parameter (see below).

Command line parameters

SETI Spy supports a number of command line parameters. The easiest way to set it up is to create a shortcut and add the command line parameters to the Target field. Be sure to put a space in front of each parameter, and no space between the "-" and the parameter text.

The **-miniview** command line parameter displays SETI Spy in a smaller window that takes up 45% less desktop real estate than the regular interface:



Note: The only way of navigating between pages in the mini view is by using the PgUp and PgDn keys.

The **-dontlog** parameter inhibits the writing of work unit times and results to the setispy.log file. This is useful if you are running multiple copies of SETI Spy to monitor one SETI@home client, but you want only one SETI Spy to log results to avoid multiple entries in the log file for the same work unit.

The **-nosound** command line parameter prevents the playing of sound files to indicate the end of a work unit (setispy.wav) or when the client goes idle (setispyidle.wav). If the sound files do not exist in the folder SETI Spy is running in, you don't need to use **-nosound** parameter. Of course, the sound files will only be audible if you have a sound card and speakers.

If your computer does not have a sound card you can use the **-beepwhendone** command line parameter. When this command line parameter is specified, SETI Spy will beep twice upon work unit completion.

You can force SETI Spy to use a remote machine's information by using the **-remote** command line parameter. This is helpful if the CPU, operating system, and memory of the local machine are displayed when using SETI Spy to monitor a remote SETI@home client.

You can also use the **-local** command line parameter to force SETI Spy act as if it is running on a local machine. This makes the client (Re)start and Stop buttons available, which is helpful if you are running the SETI@home client locally, but the executable file resides on a remote (networked) drive.

The **-loader** command line parameter will start the SETI@home client (if it is not already running) and then terminate SETI Spy. You can use this feature together with the SETI@home client window hide feature to start and hide your SETI@home client on system startup without keeping SETI Spy active.

You can use the **-dontconnect** command line parameter to prohibit SETI Spy from connecting to the internet.

You can use the **-logto** command line parameter to specify a file to log results to. The file name should be the first parameter after **-logto**. This is helpful if you are monitoring multiple clients but want to log results to a central log file. The machine name will be appended to the results.

SETI Spy uses the Windows default Message Box font by default. The **-nofont**

command line parameter lets SETI Spy default to the MS Sans Serif font.

You can use the **-wait nn** command line parameter to delay SETI Spy's startup by a few (the nn value) seconds. This may be helpful if you are having problems with SETI Spy crashing on Windows XP startup. If this is the case, try adding "-wait 15" (without the quotes) to the target of the SETI Spy shortcut in your startup folder.

If you specify any other command line parameter, SETI Spy will interpret it as the path name of the folder you want to run it in, and will try to change to that folder at startup. If that folder does not exist or cannot be reached across the network, SETI Spy will display an error message.

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